

Name: _____

at1118paper: Complete the Square (v415)

Example

By completing the square, find both solutions to the given equation:

$$x^2 - 26x = -153$$

Add $(\frac{-26}{2})^2$, which equals 169, to both sides of the equation.

$$x^2 - 26x + 169 = 16$$

Factor the left side.

$$(x - 13)^2 = 16$$

Undo the squaring. We need to consider both $\pm\sqrt{16}$.

$$x - 13 = -4$$

or

$$x - 13 = 4$$

$$x = 9$$

or

$$x = 17$$

Question 1

By completing the square, find both solutions to the given equation:

$$x^2 - 40x = -396$$

Question 2

By completing the square, find both solutions to the given equation:

$$x^2 - 44x = 2117$$

Question 3

By completing the square, find both solutions to the given equation:

$$x^2 + 52x = -235$$

Question 4

By completing the square, find both solutions to the given equation:

$$x^2 + 16x = -63$$

Question 5

By completing the square, find both solutions to the given equation:

$$x^2 + 42x = -360$$

Question 6

By completing the square, find both solutions to the given equation:

$$x^2 - 22x = -96$$